Inf----tional Application No F 'EP2004/053196

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 F02M27/02 F02D19/08 F02B43/10	
According to International Patent Classification (IPC) or to both national classification and IPC	
B. FIELDS SEARCHED	
Minimum documentation searched (classification system followed by classification symbols) IPC 7 F02D F02M F01N F02B	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched	
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)	
EPO-Internal, WPI Data, PAJ	
C. DOCUMENTS CONSIDERED TO BE RELEVANT	
Category ° Citation of document, with indication, where appropriate, of the relevant passages Relevant to da	im No.
X US 2003/168263 A1 (BOTTI JEAN JOSEPH ET 1-4,10, AL) 11 September 2003 (2003-09-11)	
abstract; figures Y page 3, paragraph 31 - paragraph 32 5-9	
page 3, paragraph 39	
A page 5, paragraph 55 11-13	
Y US 2003/115857 A1 (PREIS MICHAEL ET AL) 5-9 26 June 2003 (2003-06-26)	ý.
abstract; figures page 1, paragraph 8 — paragraph 11	
A page 2, paragraph 22 - page 3, paragraph $1-4$,	
26	
_/	
X Further documents are listed in the continuation of box C. X Patent family members are listed in annex.	
Special categories of cited documents:	
A document defining the general state of the art which is not considered to be of particular relevance or prortly date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
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1 document which may throw doubts on priority claim(s) or involve an inventive step when the document is taken alon	е
which is cited to establish the publication date of another "Y" document of particular relevance; the claimed invention	
which is cited to establish the publication date of another citation or other special reason (as specified) O' document referring to an oral disclosure, use, exhibition or specified to an oral disclosure, use, exhibition or specified to a specified to a specified to an oral disclosure, use, exhibition or specified to satisfy the citation of the considered to involve an inventive step when the document is combined with one or more other such document is combined with one or more other such document.	9
which is cfied to establish the publication date of another citation or other special reason (as specified) 'O' document referring to an oral disclosure, use, exhibition or other means 'P' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.	9
which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "O" document referring to an oral disclosure, use, exhibition or other means "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.	9
which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document is combined with one or more other such document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "8" document member of the same patent family	9
which is cited to establish the publication date of another citation or other special reason (as specified) "O" document reterring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the documents, such combination being obvious to a person skilled in the art. "A document member of the same patent family Date of mailing of the international search report	9

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international Application No F ... EP2004/053196

	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	Relevant to claim No.
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	TORY WIN TO CIGITITIVO.
X	EP 1 030 395 A (DELPHI TECHNOLOGIES INC) 23 August 2000 (2000-08-23) abstract; figures	1-4, 10-14 5-9
Α	column 2, paragraph 12 - column 4, paragraph 16 column 5, paragraph 21 - paragraph 22	5-9
A	US 2002/194835 A1 (BROMBERG LESLIE ET AL) 26 December 2002 (2002-12-26) abstract; figures page 1, paragraph 6 - paragraph 7 page 2, paragraph 16 - page 3, paragraph 26	1-14
A	GB 2 320 057 A (FORD MOTOR CO LTD) 10 June 1998 (1998-06-10) abstract; figure page 2, line 30 - page 3, line 20	1,10-13
A	FR 2 801 603 A (INSTITUT FRANCAIS DU PETROL) 1 June 2001 (2001-06-01) abstract; figures page 5, line 17 - page 8, line 7 page 9, line 23 - page 11, line 20	1
A	WO 99/19249 A (SHELL INT RESEARCH MAATSCHAPPIJ BV (NL); DE JONG KRIJN P ET AL (NL)) 22 April 1999 (1999-04-22) cited in the application abstract page 1, line 1 - line 11 page 3, line 10 - page 7, line 17 page 9, line 23 - line 33	1
A	EP 0 147 873 A (SHELL INT RESEARCH MAATSCHAPPIJ BV) 10 July 1985 (1985-07-10) cited in the application abstract page 1, line 20 - page 2, line 32	1 .
A	US 4 125 566 A (DINH CHAN TRIN ET AL) 14 November 1978 (1978-11-14) cited in the application abstract column 1, line 33 - line 50	1

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nformation on patent family members

In*----tional Application No
Four/EP2004/053196

							004/053196
	itent document In search report		Publication date		Patent family member(s)		Publication date
US	2003168263	A1	11-09-2003	US	6609582		26-08-2003
_ •		-		US	2004055586	A1 ·	25-03-2004
			<u> </u>	EP	1047144		25-10-2000
US	2003115857	A1	26-06-2003	. DE	10161696		26-06-2003
				EP	1319813		18-06-2003
				JP	2003247413 2004261399		05-09-2003 30-12-2004
				US 			
ΕP	1030395	Α	23-08-2000	US	6655325		02-12-2003
				EP 	1030395	A2 	23-08-2000
US	2002194835	A1	26-12-2002	US	6560958		13-05-2003
				CA	2383551		01-03-2001
				EP JP	1212520		12-06-2002 30-09-2003
				WO	2003529012 0114698		01-03-2001
					0114030		
GB 	2320057	A	10-06-1998	NONE			
FR	2801603	Α	01-06-2001	FR	2801603	A1	01-06-2001
WO	9919249	Α	22-04-1999	AT	231102		15-02-2003
				AU	737880		06-09-2001
				AU .	1335199		03-05-1999
				BR CA	9813035 2306938		15-08-2000 22-04-1999
				CN	1275961		06-12-2000
		_		DE	69810805		20-02-2003
		•		DE	69810805		11-12-2003
				MO	9919249		22-04-1999
				EP	1025039	A1	09-08-2000
				ID	24366		13-07-2000
				JP	2001519311		23-10-2001
		•		NO	20001927		13-04-2000
				PL Tu	339812		02-01-2001 16-06-2001
				TW US	440541 6673270		06-01-2004
				ZA	9809263		16-04-1999
	01.47070		10 07 1005				
Ł٢	0147873	Α	10-07-1985	AT AU	32876 566159		15-03-1988 08-10-1987
				AU	3286284		21-03-1985
				BR	8404510		06-08-1985
				CA	1231105		05-01-1988
				DE	3469727		14-04-1988
				ĒΡ	0147873		10-07-1985
				ES	8601081	A1	16-02-1986
	•			GB	2146350	A ,B	17-04-1985
	•			IN	161735		30-01-1988
				JP	1941772		23-06-1995
				JP	6031321		27-04-1994
	•			JP	60081288		09-05-1985
				NZ	209491		23-01-1987
				US Za	4594468 8407084		10-06-1986 24-04-1985

nformation on patent family members

International Application No
I _ . /EP2004/053196

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 4125566 A		AU AU CA DD DE GB PL ZA	507906 B2 2794777 A 1094579 A1 132440 A1 2736566 A1 1541204 A 200297 A1 7704985 A	28-02-1980 22-02-1979 27-01-1981 27-09-1978 23-02-1978 21-02-1979 24-04-1978 26-07-1978